A40.E382
JACC March 9, 2010
Volume 55, issue 10A

CONGENITAL CARDIOLOGY SOLUTIONS
(PEDIATRIC CARDIOLOGY AND ADULT CONGENITAL HEART DISEASE)

ABSENCE OF ABDOMINAL ANEURYSM IN ADULTS WITH COARCTATION AND/OR BICUSPID AORTIC VALVE - IS THIS REALLY AN "AORTOPATHY"?

ACC Poster Contributions
Georgia World Congress Center, Hall B5
Sunday, March 14, 2010, 9:30 a.m.-10:30 a.m.

Session Title: Aortic Issues in Marfan Syndrome and Adult Congenital Heart Disease
Abstract Category: Adult Congenital Heart Disease
Presentation Number: 1063-398

Authors: *Anurag Sahu, Vidu Garg, Bethany Boettner, Stephen Cook, The Ohio State University, Columbus, OH, Nationwide Children's Hospital, Columbus, OH*

Background: Progressive aortic dilatation is commonly encountered in both coarctation of the aorta (CoA) and bicuspid aortic valve (BV). Subsequently, there has been transition from the phrase post-stenotic dilatation to 'aortopathy' in light of ongoing research. Despite this, an evaluation of the entire arterial tree to determine the prevalence of abdominal aortic aneurysms (AAA) has not been performed. The purpose of this study was to determine the prevalence and risk factors of AAA in this patient population.

Methods: We performed a retrospective analysis of our adult congenital database (>18 years) to identify patients with a diagnosis of CoA and/or BV who underwent cardiac magnetic resonance angiography of the thoracic and abdominal aorta from 2007-2009. Maximal diameters of the ascending thoracic (AAo), descending (DAo) and abdominal aorta were recorded. Age, gender, and blood pressure were obtained. Aneurysmal dilation of the AAo and abdominal aorta were defined as > 40mm and > 30mm respectively.

Results: We identified 119 patients with a diagnosis of CoA and/or BV. Mean age was 34 years (range, 18 - 71 years). Of these, 73 were men. The mean AAo and abdominal aortic measurement were 33.6 +/- 9.5mm and 17.6 +/- 3.5mm respectively. Although 32 patients had evidence of AAo aneurysm, there were no patients with an AAA. In patients with an AAo aneurysm, the abdominal aorta measured 1.3 mm larger in size than in patients with normal thoracic aorta size ($p<.05$). Patients with CoA had an abdominal aorta 1.5 mm smaller than those with BV ($p<.01$). The AAo increased by 0.32mm/year of age. In contrast, the abdominal aorta increased by 0.15mm/year of age ($p=.01$). Blood pressure did not play a role in abdominal aorta size. Overall, women had a smaller abdominal aorta than men ($p<.001$).

Conclusions: Although CoA and BV are strongly associated with aneurysm of the AAo, none of the patients studied were found to have AAA. Therefore, the nature of this process in the congenital population remains elusive and further studies are warranted. Until then, the term 'aortopathy' should be limited to the ascending aorta rather than a generalized term to describe the entire arterial tree.